

CLAIMS

1. A resin molded product comprising:
a matrix of a resin material; and
an electrically conductive filler dispersed in
the matrix,
wherein a content of the electrically conductive
filler is lower than 20 wt%, and
the resin molded product has been subjected to
a voltage application process employing a voltage of not
lower than 20 kV and lower than a dielectric breakdown
voltage of the matrix.
2. A resin molded product as set forth in claim 1,
wherein the content of the electrically conductive
filler is not lower than 1.0 wt% and not higher than 16
wt%.
- 3 (Amended). A resin molded product as set forth in
claim 1, wherein the electrically conductive filler has
a collective filler electrical resistance of not more
than $10^5 \Omega \text{cm}$ and not less than $10^{-2} \Omega \text{cm}$.
4. A resin molded product as set forth in claim 1,
wherein the electrically conductive filler is fibrous.
5. A resin molded product as set forth in claim 4,
wherein the electrically conductive filler has an
average fiber diameter of not less than $0.002 \mu \text{m}$ and
not more than $15 \mu \text{m}$.

See also
252/502+

6. A resin molded product as set forth in claim 5, wherein the electrically conductive filler has an average residual aspect ratio of not less than 10 and not more than 100,000.

7. A resin molded product as set forth in claim 1, further comprising a coloring material dispersed in the matrix together with the electrically conductive filler.

8. A resin molded product as set forth in claim 7, wherein the electrically conductive filler is at least one of a fibrous carbon filler and a fibrous graphite filler.

9. A resin molded product as set forth in claim 8, further comprising a masking material for masking a color of the electrically conductive filler, the masking material being dispersed in the matrix together with the electrically conductive filler and the coloring material.

10. A resin molded product as set forth in claim 1, which has a surface resistance of not less than $10^5 \Omega$ /□ and not more than $10^{12} \Omega$ /□.

11. A resin molded product comprising:
a matrix of a resin material; and
an electrically conductive filler dispersed in the matrix,
wherein a content of the electrically conductive

filler is lower than 20 wt%, and

the surface resistance of the resin molded product after a heat treatment in which the resin molded product is heated up to a softening point of the resin material and then cooled to a room temperature, is not less than 100 times as great as that before the heat treatment.

12. A resin molded product as set forth in claim 11, wherein the content of the electrically conductive filler is not lower than 1.0 wt% and not higher than 16 wt%.

13. A resin molded product as set forth in claim 11, wherein the surface resistance of the resin molded product after the resin molded product is subjected to the heat treatment and then to a voltage application process employing a voltage of not lower than 20 kV and lower than a dielectric breakdown voltage of the matrix, is not more than 1/100 of the surface resistance before the voltage application process.

14. A resin molded product as set forth in claim 13, further comprising a coloring material dispersed in the matrix together with the electrically conductive filler.

15. A resin molded product as set forth in claim 14, further comprising a masking material for masking a color of the electrically conductive filler, the masking

material being dispersed in the matrix together with the electrically conductive filler and the coloring material.

16. A resin molded product producing method comprising the steps of:

preparing a molding material comprising a resin material and an electrically conductive filler so that a content of the electrically conductive filler is set to be lower than 20 wt%;

molding the molding material into a predetermined shape; and

applying a voltage of not lower than 20 kV and lower than a dielectric breakdown voltage of the resin material, to the molded material.

17. A resin molded product producing method as set forth in claim 16, wherein the content of the electrically conductive filler in the molding material is set to be not lower than 1.0 wt% and not higher than 16 wt%.

18. A resin molded product producing method as set forth in claim 16, wherein the molding material further comprises a coloring material.

19. A resin molded product producing method as set forth in claim 18, wherein the molding material further comprises a masking material for masking a color of the

electrically conductive filler.

20 (Amended). An apparatus for producing a resin molded product containing an electrically conductive filler at a proportion of less than 20 wt% and having a surface resistance of not less than $10^5 \Omega/\square$ and not more than $10^{12} \Omega/\square$, the apparatus comprising:

a voltage application section for applying a voltage of not lower than 20 kV and lower than a dielectric breakdown voltage of a resin molded product containing the electrically conductive filler at a proportion of less than 20 wt%, to the resin molded product; and

transport means for transporting the resin molded product toward the voltage application section.

21 (Amended). An apparatus for producing a resin molded product containing an electrically conductive filler at a proportion of less than 20 wt% and having a surface resistance of not less than $10^5 \Omega/\square$ and not more than $10^{12} \Omega/\square$, the apparatus comprising:

an electrode for applying a voltage of not lower than 20 kV and lower than a dielectric breakdown voltage of a resin molded product containing the electrically conductive filler at a proportion of less than 20 wt%, to the resin molded product; and

transport means for transporting the resin molded

product toward the electrode with the resin molded product being kept in an opposedly spaced relation with respect to the electrode,

wherein the transport means is grounded.

22(Amended). An apparatus as set forth in claim 21, wherein the electrode is an electrode set comprising a plurality of needle electrodes.

23(Amended). An apparatus as set forth in claim 22, further comprising a spacing adjusting device for adjusting a spacing between the electrode and the resin molded product.

24(Amended). An apparatus as set forth in claim 21, wherein the transport means is capable of successively transporting a multiplicity of resin molded products toward the electrode.